

Lower data movement projects

Status of ongoing project and plans for future

6/16/04

Ongoing and planned projects

Automigration. Automatically migrate data from tapes to other tapes based on some predefined conditions

Federation. Combine 3 separate enstore systems into one allowing more effective way of handling a lower level data storage.

Dispersal

Configuration management

Feature addition

Automigration (design concepts)

file based migration

- migration works on a list of files
- single file migration is a special case in which the list contains only one file
- the file is always available during the migration
- migration can "optionally" do its best to preserve the order
- other aggregations, such as volumes, can be built on top of this

migrated files are guaranteed to be on designated tapes

- achieved through special file families

rules and other smarts can be built on top of this

Automigration (status)

All design issues are resolved

Implementation is about 80 % complete

Early testing / debugging has been started

We anticipate to put it into production in July (middle or end)

Common data storage

Federation

Dispersal

The full advantage of these two steps (project) will result only in the common data storage

Federation (design)

Allow access to all enstore files across the borders of existing systems

Share tape drives and robots

Apply "fair" share distribution of tape drives

Present all currently separated systems as one for more effective and convenient administration and system monitoring.

Federation (status)

At the early stages of design

Defining the requirements

Some experiments with resource distribution
across the borders of existing systems

Fair share is satisfied

Working on the web presentation of the combined
system

Dispersal

Allow storage data for the same experiment in different robots to protect data from some systematic loss. Based on some criteria defining the importance of the data, not well defined yet. In the very early stages.

Write tabs flipping

In production. Periodic generation of tape lists needs to be more consistent

Write tab audit runs periodically

Configuration Management

No substantial progress

Feature additions

Enc feature additions, bug fixes problem resolutions for different OS. 64 bit file length, etc.

New features for SDSS tape imports on a fly

Mover serving multiple library managers

Better request processing in the library manager

Replacement of libdb with postgres for file / volume database.

Modification of file and volume clerks. Info server.

More data posted on the web pages

Miscellaneous

Problem resolutions

New equipment

System upgrades and expansions

Enstore / dCashe user guide

CDF and ktev tape migration

2005 WBS (not finalized)

DMS-LS

DMS-LS-D2D [0.2] Day to Day ISA, experiments interface, problem resolution

DMS-LS-SMALL

DMS-LS-SMALL-MONITORING [0.2]

DMS-LS-SMALL-PALLIATIVE [0.3] [+ 0.3 CEPA]

DMS-LS-SMALL-OTHER [0.2] incl entv

DMS-LS-ENCP [0.3]

DMS-LS-FEDERATION [0.6] [+0.3 CEPA] Make one logical instance of all enstore systems at FNAL.

DMS-LS-DISPERSAL [0.6] [+0.3 CEPA] Allow for data dispersal on site.

DMS-LS-SRM [0.1] SRM interface for Enstore.

DMS-LS-FTT [0.1] Fermi Tape Tools.

2005 WBS (continued)

DMS-ADMIN

DMS-ADMIN-HW-CMGT [0.1/\$20K] Eliminate gratuitous differences in movers, etc.

DMS-ADMIN-SW-CMGT [0.5/\$15K] Work towards "rocks appliance" or similar config management framework.

DMS-ADMIN-METRICS [0.2] Develop some metrics.

DMS-ADMIN-D2D [2.0] Day to day admin, tape investigation and installations, stewardship.

DMS-ADMIN-FLOW [0.2] Workflow of tape issues, firmaware and other items w/reporting.

DMS-ADMIN-FEDERATION [??]**define the work** what is the systems impact?

DMS-ADMIN-DISPERSAL [1.0/\$100K] Moving of systems. (related to facilities budget)

DMS-ADMIN-EVAL [0.2/\$10k] Evaluate next devices.

DMS-ADMIN-NULLTEST [0.2/\$60k] large separate-instance -- Null Mover test stand.

DMS-ADMIN-MANUAL [1.0] Tape handling operations.